

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
14 April 2005 (14.04.2005)

PCT

(10) International Publication Number
WO 2005/033317 A1

(51) International Patent Classification⁷: C12N 15/82,
C07K 14/28

(21) International Application Number:
PCT/NL2004/000708

(22) International Filing Date: 8 October 2004 (08.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
03078192.6 9 October 2003 (09.10.2003) EP

(71) Applicant (for all designated States except US): PLANT
RESEARCH INTERNATIONAL B.V. [NL/NL];
Droevendaalsesteeg 1, NL-6708 PB Wageningen (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): FLORACK, Dion-
isius, Elisabeth, Antonius [NL/NL]; Van Doesburglaan
160, NL-6708 MD Wageningen (NL). BOSCH, Hendrik,
Jan [NL/NL]; Wim Sonneveldstraat 17, NL-6708 NA Wa-
geningen (NL).

(74) Agent: WINCKELS, J., H., F.; Vereenigde, Johan de Wit-
tlaan 7, NL-2517 JR Den Haag (NL).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: CHIMERIC CARRIER MOLECULES FOR THE PRODUCTION OF MUCOSAL VACCINES

(57) Abstract: The invention relates to a protein complex for the delivery of an antigen to and across mucosal surfaces and the production of said complex in a host cell, such as a plant. Provided is a protein complex comprising at least two, preferably identical, subunits wherein at least one subunit is unaltered and at least one subunit is fused to a first molecule of interest and wherein the protein complex is able to interact with a cell surface receptor via said subunits. Also provided is a method for producing a protein complex according to the invention, comprising a) providing a host cell with a nucleotide sequence encoding an unaltered subunit and a nucleotide sequence encoding a molecule of interest, wherein at least one molecule of interest is fused to a subunit; b) culturing said host cell thereby allowing expression of said nucleotide sequences and allowing for assembly of the protein complex; c) isolating the complex; d) determining the binding of the complex to a cell surface receptor or to a molecule which mimics a cell surface receptor.

WO 2005/033317 A1